

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Identifying the Effects of an Upgraded 'Fever Clinic' on COVID-19 control and the Workload of Emergency Department: A Retrospective Study in a Tertiary Hospital in China
AUTHORS	JIANGSHAN; Zong, Liang; Zhang, Jinghong; Sun, Han; Joseph, Harold; Sun, Pengxia; Xu, Shengyong; Li, Yan; Wang, Chunting; Liu, Jihai; Li, Fan; Xu, Jun; Li, Yi; Yu, Xuezhong; Zhu, Huadong; WANG

VERSION 1 – REVIEW

REVIEWER	Margot Mutsch University of Zurich, Switzerland
REVIEW RETURNED	05-May-2020

GENERAL COMMENTS	<p>The authors assessed retrospectively and with a cross-sectional design the role and patient flow of a special Fever Clinic affiliated with an emergency department of a tertiary hospital. There are a couple of questions which should be resolved:</p> <ul style="list-style-type: none">- Abstract, Tables and Result section: A total of 6,365 patients were enrolled. A total of 2,192 before and 3,453 after the outbreak declaration. These two figures sum up to 5,645 patients. Please explain where the residual 720 people are.- Abstract: The "after the outbreak declaration" period covers 40 days (20.1. to 29.2.2020) and not the whole time period assessed (12.12.2019 to 29.2.2020).- Tables: Please specify whether the age reported corresponds to a mean or median age.- In total, 19 covid-19 cases were detected and confirmed. Are these all potential covid-19 cases assessed at this Fever Clinic during the mentioned time period?- Critically ill patients were described as a subgroup in the Fever Clinic and did not include covid-19 patients. Is that correct?- These critically ill patients showed with 21/38 in-hospital deaths a higher case fatality rate after the outbreak declaration than before (9/29 deaths). It was not totally clear why there was a poorer outcome post-outbreak declaration. Could this mean in future that critically ill patients fear to present at the Fever Clinic?
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REVIEWER	Vincent Chi-Chung CHENG The University of Hong Kong, Hong Kong Special Administrative Region, China
REVIEW RETURNED	06-Jun-2020

GENERAL COMMENTS	This is a well written descriptive study to illustrate the use of fever clinic before and after outbreak of COVID-19 to reduce the burden
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	<p>of the emergency department of hospital. The aim is to reduce the risk of spread of COVID-19 in the hospital. It is a important experience sharing.</p> <p>Beside the description of epidemiological characteristic of patients being seen by the fever clinic, it would be more important to describe the infection control measures in the fever clinic. For instance, what is the personal protective equipment, in addition to isolation gown, among the healthcare workers? what is the protocol of environmental disinfection? Is non-touch technology such as ultraviolet or hydrogen peroxide vaporization is used? Is there any airborne infection isolation room in the fever clinic? If not, is there any portable air-purifier in the consultation room?</p>
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VERSION 1 – AUTHOR RESPONSE Responses to Reviewers' Comments

Thanks Dr. Mutsch and Dr. Cheng for your time. We are glad to hear from you and thanks for putting up these important questions. The questions are addressed here in this document.

Questions from Dr. Mutsch

Q1: Abstract, Tables and Result section: A total of 6,365 patients were enrolled. A total of 2,192 before and 3,453 after the outbreak declaration. These two figures sum up to 5,645 patients. Please explain where the residual 720 people are.

Answer: This is a clerical error. The actual number of registered cases before outbreak declaration was 2,912 rather than 2,192, and total number was 6,365. The data quoted in the manuscript and tables are correct. The data were revised in the abstract and results part.

Q2: Abstract: The "after the outbreak declaration" period covers 40 days (20.1. to 29.2.2020) and not the whole time period assessed (12.12.2019 to 29.2.2020).

Answer: The FC was upgraded on January 20, 2020, which was also the official date when COVID-19 was declared an "outbreak" in Beijing. Before January 20, 2020, SARS-CoV-2 had already merged and infected patients in Wuhan, but hospitals outside of Wuhan (e.g. Beijing) had not been adequately alert nor had upgraded their preventative measures and protocols. After January 20, 2020, the FC had been upgraded in terms of medical equipment and new work protocols to prevent the spread of COVID-19 at the PUMCH. Therefore, two groups of data were collected and subsequently compared with each other: The first group of data was collected within 40 days before January 20, 2020; The second group of data was collected within 40 days after January 20, 2020.

Q3: Tables: Please specify whether the age reported corresponds to a mean or median age.

Answer: These data are all median age. The details have been supplemented in the tables.

Q4: In total, 19 covid-19 cases were detected and confirmed. Are these all potential covid-19 cases assessed at this Fever Clinic during the mentioned time period?

Answer: Yes, 19 confirmed cases of COVID-19 were identified after the upgradation of the FC (from January 21, 2020 to February 29, 2020). This has been documented in Table 1.

Q5: Critically ill patients were described as a subgroup in the Fever Clinic and did not include covid-19 patients. Is that correct?

Answer: Yes. All of the confirmed COVID-19 cases in our hospital were mild to moderate. No critical COVID-19 patients were diagnosed in our hospital. Thus, none of the critically ill patients involved in this study have COVID-19. This has been supplemented in the manuscript

Q6: These critically ill patients showed with 21/38 in-hospital deaths a higher case fatality rate after the outbreak declaration than before (9/29 deaths). It was not totally clear why there was a poorer outcome post-outbreak declaration. Could this mean in future that critically ill patients fear to present at the Fever Clinic?

Answer: That's a really good question. We also have considered this question. **Firstly**, the sample size was small in both groups, thus sampling error was hard to avoid. **Secondly**, 2 patients from the 9/29 group and 7 patients from the 21/38 group actually declared 'DO NOT RESUSCITATE' (DNR). If these DNR patients were excluded from their respectively study groups, the mortality rate becomes 7/29 in the first group (before the outbreak) and 14/38 in the second group (after the outbreak).

Thirdly, the new policy at PUMCH during COVID-19 stated that critically ill patients from the Emergency Department could not be promptly admitted into the ICU and other specialist ward, in order to prevent the spread of COVID-19 in the hospital. The longer total length of stay in the Fever Clinic and Emergency Department after the outbreak of COVID-19, which may affect the critically ill patient's short-term prognosis.

Questions from Dr. Cheng

The infection control measures in the fever clinic were of vital importance. After the COVID-19 outbreak, personal protective equipment worn by healthcare workers in FC was upgraded to a higher infection-control standard, including the mandatory wearing of disposable medical protective suit with an isolation gown, N95 filtering facepiece respirator, goggles, disposable full-face shield, and two layers of clean gloves and boot covers.

All consulting rooms and observation rooms are negative-pressure rooms. Each consulting room was sterilized by ultraviolet for one hour every day, and by alcohol (75%) spray for all the surfaces (e.g. desks, computers, keyboards and printers) once every four hours. Negative-pressure airborne infection isolation observation rooms were also sterilized by ultraviolet for one hour every day even when no patients were admitted. When a patient left the observation room, ultraviolet sterilization for the room, alcohol spray for surfaces were performed immediately.

VERSION 2 – REVIEW

REVIEWER	Margot Mutsch University of Zurich/EBPI, Switzerland
REVIEW RETURNED	15-Jun-2020
GENERAL COMMENTS	no more comments.